



U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

Orientation Markings for Single Packages with Vented Closures

Effective January 1, 2008, marking requirements for packagings containing liquid hazardous materials intended for transport include single packages that can be fitted with vents, and open cryogenic receptacles intended for the transport of refrigerated liquefied gases. Previously, only a combination package with liquids contained in the inner packagings required the orientation markings. If you offer or carry liquid hazardous materials transported in a combination package, single packages fitted with vented closures, or open cryogenic receptacles intended



for transport of refrigerated liquefied gases, those packages must display orientation arrow markings on two opposite vertical surfaces. The markings must identify the proper orientation of the package in transportation. Examples of single packages include, but are not limited to, steel and plastic drums, jerricans, pails, and composite packaging.



These requirements were promulgated under HM-215I, Harmonization with the United Nations Recommendations, International Maritime Dangerous Goods Code, and International Civil Aviation Organization's Technical Instructions, December 29, 2006. They are now incorporated in the HMR, §172.312.

Steel Drum



Plastic Jerrican



Plastic Pail



The requirements for orientation markings are specified in the 49 CFR as follows:

§ 172.312 Liquid hazardous materials in non-bulk packaging.

(a) Except as provided in this section, each non-bulk combination package having inner packagings containing liquid hazardous materials, single packaging fitted with vents, or open cryogenic receptacle intended for the transport of refrigerated liquefied gases must be:

(1) Packed with closures upward, and

(2) Legibly marked with package orientation markings that are similar to the illustration shown in this paragraph, on two opposite vertical sides of the package with the arrows pointing in the correct upright direction. The arrows must be either black or red on white or other suitable contrasting background and commensurate with the size of the package. Depicting a rectangular border around the arrows is optional.

**For additional information regarding Orientation Markings and the HMR contact:
Hazmat Information Center: 1-800-467-4922 or E-mail: infocntr@dot.gov**